

BEST AVAILABLE COPYPatent claims

1. A reabsorbable hemostyptic self-adhering to human
5 or animal tissue and essentially consisting of at least one polymer which carries free aldehyde groups and whose aldehyde groups are able to react with nucleophilic groups of the tissue, the hemostyptic being present in solid, porous and
10 absorbent form.
2. The hemostyptic as claimed in claim 1, characterized in that it is present in the form of a three-dimensional body, in particular a sheet.
15
3. The hemostyptic as claimed in claim 1 or 2, characterized in that it is present in the form of a nonwoven, in particular a three-dimensional nonwoven.
20
4. The hemostyptic as claimed in claim 1 or 2, characterized in that it is present in the form of an open-cell foam.
25
5. The hemostyptic as claimed in claim 1, characterized in that it is present in the form of a granulate or powder of absorbent particles.
30
6. The hemostyptic as claimed in one of the preceding claims, characterized in that the polymer, preferably the entire hemostyptic, is water-soluble.
35
7. The hemostyptic as claimed in one of the preceding claims, characterized in that the polymer carrying aldehyde groups is an oxidized, in particular bioabsorbable polysaccharide.
40
8. The hemostyptic as claimed in claim 7,
45

BEST AVAILABLE COPY

characterized in that the oxidized polysaccharide is one from the group comprising starch, cellulose, agar, dextran, xanthan, heparin, hyaluronic acid, alginic acid and chondroitin sulfate, preferably dextran polyaldehyde.

5

9. The hemostyptic as claimed in one of the preceding claims, characterized in that the proportion of glucose units oxidized to the aldehyde in the dextran polyaldehyde is at least 20%, preferably 10 35% to 100%, in particular 60% to 80%.

10. The hemostyptic as claimed in one of the preceding claims, characterized in that the polymer carrying 15 aldehyde groups is an in particular branched polyethylene glycol with at least 3 terminal aldehyde groups.

11. The hemostyptic as claimed in one of the preceding 20 claims, characterized in that the polymer carrying aldehyde groups is an in particular branched polyvinyl alcohol with at least 3 terminal aldehyde groups.

25 12. The hemostyptic as claimed in one of the preceding claims, characterized in that it can be obtained by lyophilization of a solution of the at least one polymer.

30 13. The hemostyptic as claimed in one of the preceding claims, characterized in that it can be obtained from a 0.5 - 20% strength, preferably 1 - 15% strength, in particular 1 - 10% strength, especially 2% strength solution of the at least 35 one polymer.

14. The hemostyptic as claimed in one of the preceding claims, characterized in that, because of its hydrophilic character and its porosity, it is able

BEST AVAILABLE COPY

to take up at least 30 times its weight of fluid.

15. The hemostyptic as claimed in one of the preceding claims, characterized in that it is partially cross-linked with a cross-linking agent.
5
16. The hemostyptic as claimed in claim 15, characterized in that the cross-linking agent is at least one from the group comprising chitosan, bifunctional or multifunctional amines, bifunctional or multifunctional molecules with -SH and -NH₂ groups, and bifunctional or multifunctional thiols, preferably chitosan.
10
- 15 17. The hemostyptic as claimed in one of the preceding claims, characterized in that it contains at least one additive for increasing the absorbency.
18. The hemostyptic as claimed in claim 17, characterized in that the agent for increasing the absorbency is carboxymethylcellulose (CMC).
20
19. The hemostyptic as claimed in one of the preceding claims, characterized in that it has a surface structured at least on one side.
25
20. A method for producing a hemostyptic as claimed in claims 1 through 19, characterized in that at least one polymer in solution and/or in the gel state, preferably polysaccharide, in particular dextran polyaldehyde, is converted by means of lyophilization into a solid dry form.
30
21. Provision of the hemostyptic as claimed in one of claims 1 through 19, for a preferably internal application in an organism, in particular in wounds.
35
22. Provision of the hemostyptic as claimed in one of

BEST AVAILABLE COPY

claims 1 through 19, for wound closure, preferably of internal wounds.

23. Provision of the hemostyptic as claimed in one of claims 1 through 19, for hemostasis in cases of organ resection or organ rupture.
- 5
24. Provision of the hemostyptic as claimed in one of claims 1 through 19, in the form of a ring for anastomoses.
- 10
25. Provision of a reabsorbable hemostyptic self-adhering to human or animal tissue and essentially consisting of at least one polymer which carries free aldehyde groups and whose aldehyde groups are able to react with amino groups of the tissue, the hemostyptic being present in a moist form, in particular a liquid or gel-like form.